Loureiro Engineering Associates, Inc.

RDMS DocID 00100156

July 19, 2001

State of Connecticut
Department of Environmental Protection
Bureau of Water Management
Permitting, Enforcement & Remediation Division
79 Elm Street
Hartford, CT 06106

Pratt & Whitney
CTD990720811
R-9
RDMS # 100156

Attn.: Mr. Christopher Stone

RE: General Permit for Discharge of Stormwater & Dewatering Wastewater from Construction Activities
Willow Brook and Willow Brook Pond, PCB Remediation Project
East Hartford, Connecticut

Dear Mr. Stone:

I would like to thank you for taking the time to expedite review of our General Permit registration for the above referenced project. Loureiro Engineering Associates, Inc. (LEA) has prepared this letter on behalf of our client, United Technologies Corporation, Pratt & Whitney Division (UTC/P&W), to provide a response to your concern regarding the suspension of fines upon reinitiating flow within Willow Brook Pond.

As presented during our meeting, the flow from Willow Brook will be diverted through a temporary bypass channel to facilitate the necessary remedial activities within Willow Brook and Willow Brook Pond. Upon completion of the remedial excavation, the ponds (upper and lower) will be capped with a 3-foot thick cap (Attachment 1) consisting of two separate geo-synthetic fabrics, an organic layer, granular fill all topped with a 6-inch course of 4-inch stone (armor). This armor will extend throughout the entire bottom of the ponds up to the ordinary water level or existing pond sidewall structures (riprap, sheet piles, etc.).

The armor layer will consist of screened material from a stone crushing operation. The intent of this material is to offer a sound well bound armor layer offering erosion protection for the underlying cap materials. As such, the gradation specification for the selected material will not include provision for any fines. This material typically arrives on-site well washed and relatively dust free. The material will be temporarily stockpiled on-site prior to placement, inspected for the presence of fines and washed with pressurized water if necessary. Consequently, we do not expect significant sedimentation suspension upon reinitiating the flow. Any rinseate generated during the washing activities will be handled in accordance with our site specific SWPPP.

In addition to the above described mitigative measures, we will use the existing dam to retain the discharge within Willow Pond for an adequate timeframe to facilitate settlement of suspended fines. Although Willow pond offers a significant volume of storage, we will not be able to completely detain the flow for an extended period of time due to potential ecological impacts downstream. The dam is equipped with stanchion type flashboards on both sides of the concrete weir structure to facilitate bypass. The flashboards will be selectively installed with the intent of balancing the need for downstream flow with the upstream detention for settlement.

Since clean stone will be used as armor for the cap surface, very little suspended sediment will be generated. The above-described measures will be adequate to address the concern that sediment will be suspended in the water column upon reinitiation of the flow. However, if our initial assessment of the "refilling" activities suggests that more aggressive measures are appropriate, we will be equipped to immediately install a fixed or floating diaper (a.k.a. Florida Diaper) across the upstream side of the dam as a contingency. A typical detail of this installation is provided as Attachment 2.

We are confident that the provisions included herein will adequately address your concerns regarding the suspension of fines upon reinitiating flow within Willow Brook pond. Please feel free to contact me or Lauren Levine of UTC/P&W at (860) 728-6520 with any questions or comments.

Sincerely

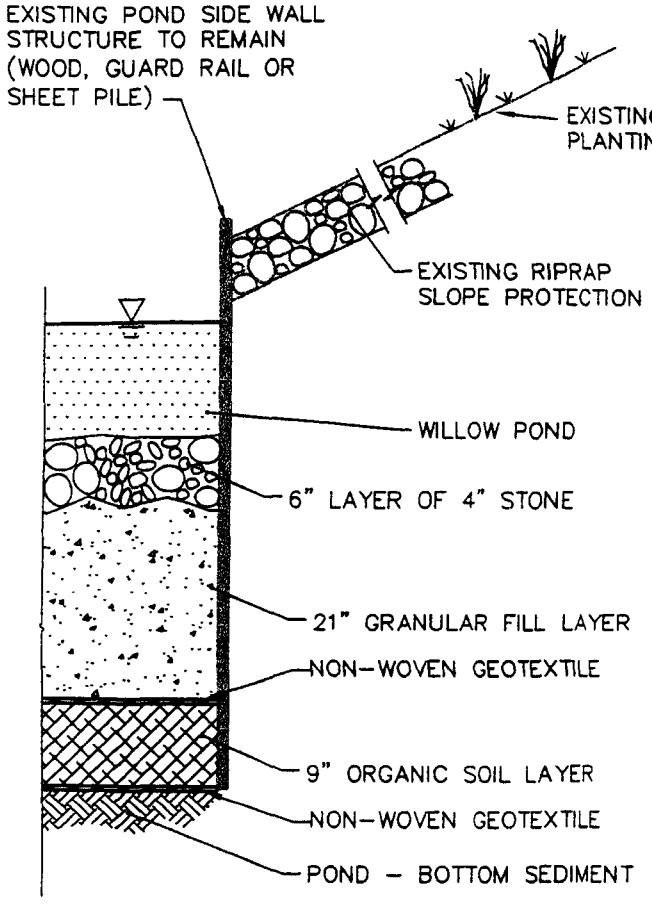
LOUREIRO ENGINEERING ASSOCIATES, INC.

George F. Andrews Jr., P.E.
Senior Project Manager

enclosure

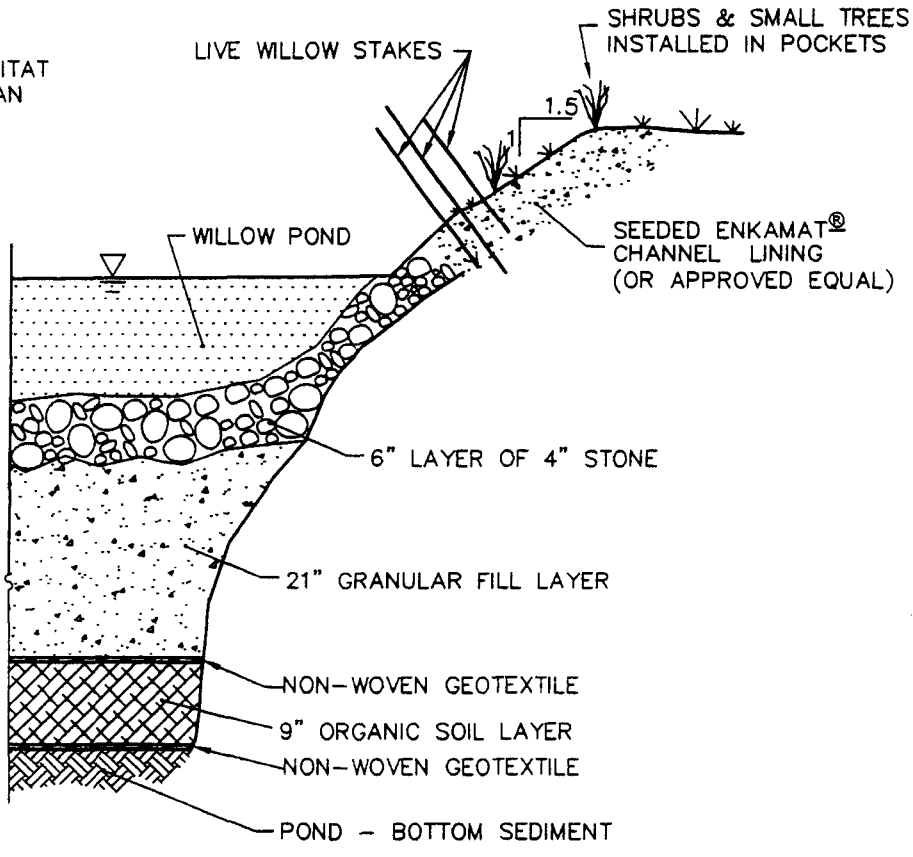
cc: Lauren Levine, UTC
Juan Perez, U.S. EPA
Elsie Patton, DEP
Lori Saliby, DEP
Melissa Toni, DEP
Richard Hathaway, DEP
Cori Rose, ACOE

Attachment 1
Figure 2-6
Detail – Pond Bottom Cap



LOWER POND

NOT TO SCALE



UPPER POND

NOT TO SCALE

REMEDIAL ACTION WORK PLAN

UTC\P & W. Willow Brook & Willow Brook Pond

DETAIL - POND BOTTOM CAP

Comm.No. 88UT002

FIGURE 2-6

LEA

rawp-DETS.dwg

G:\Autocad\PROJECTS\PWEH\Willow\88UT002\Permit Applications\RAWP\May 2001\rawp-DETS.dwg, 05/16/01 05:58:

Attachment 2
Detail – Florida Diaper

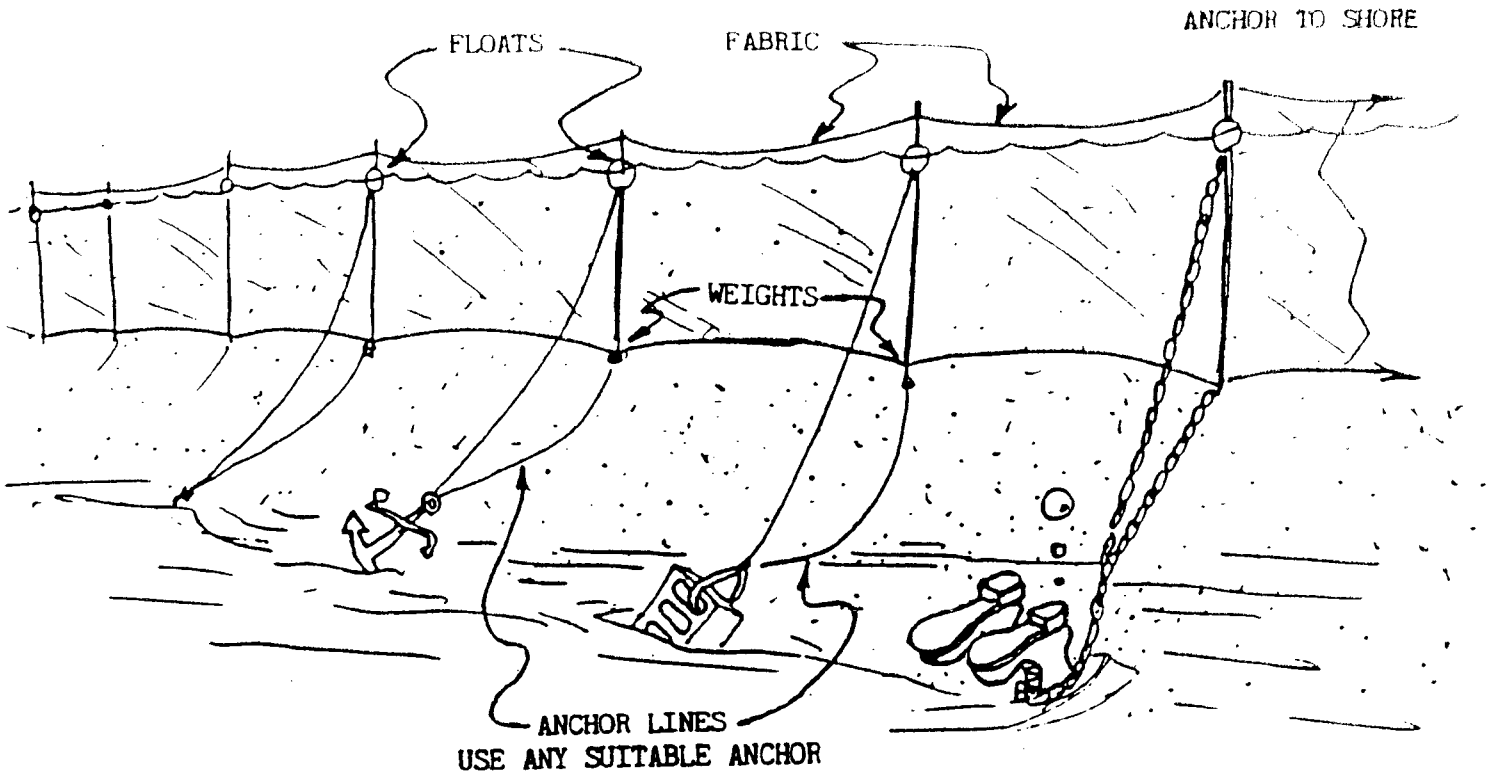
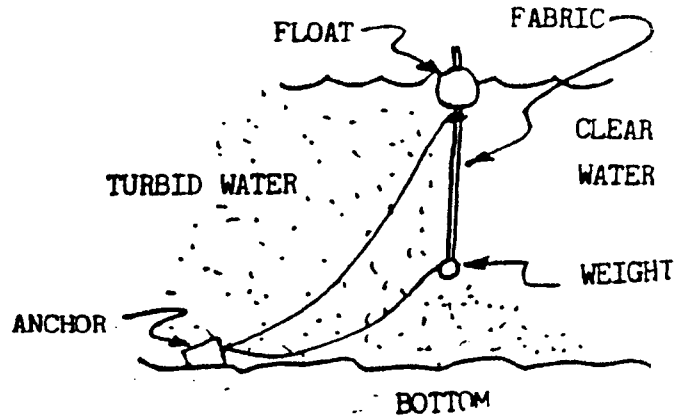


FIGURE 25 - FLOATING SILT SCREEN (Florida Diaper)

Use of floating or fixed diaper confines turbid water to work area.



SECTION EITHER FLOATING OR ANCHORED

FLORIDA DIAPER ON POST

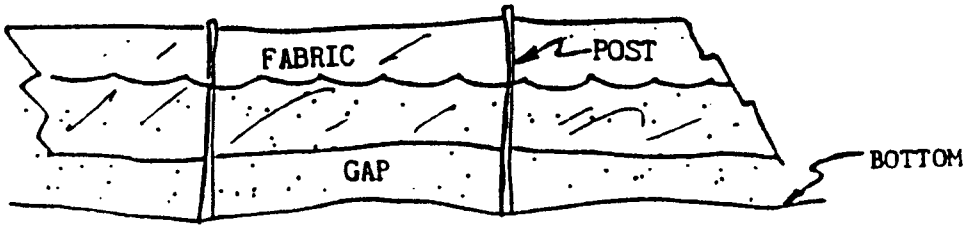


FIGURE 26 - SILT SCREEN ON POST

Details obtained from "On-Site Environmental Mitigation for Construction Activities", Prepared by the Connecticut Department of Transportation, Office of Environmental Planning, January 1986.